

School Lunch Operations: Healthy Ice Cream

Performance Task

Introduction

Schools are challenged to provide healthy foods to their students, while at the same time, having the meals and snacks be enjoyable. The school board can only approve a limited number of items to be sold in the school cafeteria, and they are hoping to approve only snacks with high levels of nutritional value. You are proposing that your custom-made ice cream will be approved by the school board and sold in the school cafeteria.

Big Idea / Essential Questions

Big Idea

- Nutrition, eating habits and preparation choices impact overall health and wellness throughout the lifecycle at individual and societal level.
- A technological world requires that humans develop capabilities to solve technological challenges and improve products for the way we live.

Essential Questions

- Why is it important to identify the factors that influence personal eating habits?
- Why is it important to master basic food preparation techniques, such as measuring, cutting, mixing, and cooking?
- How have the advances in equipment and resources influenced the ice cream production process?

G.R.A.S.P.

Goal

You are an ice cream expert who has worked for several years in the ice cream production and sales business at a prominent and highly successful ice cream store. Your task is to create and design a new flavor of ice cream that will be a healthy treat, and as such, you can sell it to school districts to offer to the student population. Your challenge is to present to the school board of a local school district your new ice cream flavor. Include the steps that you have taken in the production of the ice cream to insure that it is a healthy alternative to the other snacks and desserts offered by the schools.

Role

You are an experienced ice cream production expert, and have been asked by your company to produce a potential new flavor of ice cream, taking into account the

necessary steps involved in creating a high-quality product. In addition, the nutritional value of the product is critical, as it needs to be approved by school boards in order to be able to offer it in school cafeterias across the nation.

Audience

Your audience is the members of the school board. You will be presenting your information in hopes that they will vote in favor of selling your product to the students in the school. The members of the school board will need to be convinced that your product is not only a healthy alternative to the current snacks/desserts, but that it is also tasty and cost effective.

Situation

In the current environment, schools are challenged to provide healthy foods to the students while having the meals and snacks be enjoyable. The school board can only approve a limited numbers of items to be sold in the school cafeteria, and are planning to only approve snacks with high nutritional value. You are hoping that your ice cream will be approved by the school board and sold in the schools.

Products

1. Editorial

Your task is to write an editorial to the local paper that argues for adding your ice-cream flavor to the school cafeteria. Many parents are concerned with the many unhealthy food choices already offered in schools and so your focus should be on the nutritional benefits of your product. You might want to talk about the vitamins, minerals, fat content, and calorie count in your product. A focus on the benefits of calcium would likely be very helpful. Be sure to include information about the vitamins, minerals, fat, sugar, calories, and calcium in your ice cream. You can use this website to help you: Labeling & Nutrition Information

- What expressions or equations can you use to calculate calories in ice cream?
- How can you use ratios?
- What vitamins and minerals are present in your flavor and how do they benefit people who consume them?

Editorial - School Lunch Operations: Healthy Ice Cream

Achievement Levels	1	2	3	4
Article Structure (x1)	A headline is present and the article is a narrative that fairly describes the central idea.	A headline is present that captures the article' s focus. The article is a narrative that describes the central idea.	A headline is present that captures the article's focus and is somewhat interesting for the audience. The article has an introduction, body and conclusion all generally focused around a central idea.	A headline is present that captures the article $\hat{a} \in \mathbb{T}^{m} s$ focus as well as the audience $\hat{a} \in \mathbb{T}^{m} s$ attention. The article has a strong introduction, body and conclusion all focused around a central idea.
Detail Accuracy	Few facts presented in the article are accurate and support the topic.	Some facts presented in the article are accurate and support the topic.	Almost all facts presented in the article are accurate and strongly support the topic.	
Writing Conventions	The final product contains many errors of spelling, grammar or syntax. The	The final product contains some errors of spelling, grammar or syntax. The	The final product contains minimal errors of spelling, grammar or syntax. The article	The final product contains no errors of spelling, grammar or syntax. The article is written

article is written using a singular voice.2

is written using a singular voice. using a singular voice. $\mathbf{4}$

Proportional Reasoning

Product demonstrates little Product demonstrates understanding of proportional relationships by proportional relationships by correctly including few of the Percent Daily Value calculations of the ice cream nutrition information.

minimal understanding of correctly including some of the Percent Daily Value calculations of the ice cream nutrition information.

Product demonstrates adequate understanding of proportional relationships by correctly including most of the Percent Daily Value calculations of the ice cream nutrition information.

Product demonstrates deep understanding of proportional relationships by correctly including all Percent Daily Value calculations of the ice cream nutrition information.

Nutrients and Human Growth

The product does not provide an explanation for how nutrients and healthy ingredients can influence human growth and health.

The product provides a minimally detailed explanation for how nutrients and healthy ingredients can influence human growth and health.

The product provides a somewhat detailed explanation for how nutrients and healthy ingredients can influence human ingredients can influence growth and health.

The product provides a very detailed explanation for how nutrients and healthy human growth and health.

(x1)

The product provides minimal understanding of **Design Choices** the design solution based upon the target audience and the factors that affect the problem.

The product provides some understanding of the design solution based upon the target audience and the factors that affect the problem.

The product provides adequate understanding of the design solution based upon the target audience and the factors that affect the problem.

The product provides strong understanding of the design solution based upon the target audience and the factors that affect the problem.

Editorial - School Lunch Operations: Healthy Ice Cream

Achievement Levels

1

2

3

Information Literacy

utilize information from sources.

The writer utilizes The writer does not information from sources and presents it accurately using an ethical lens.

The writer evaluates information competently and presents it accurately using an appropriate ethical lens.

The writer evaluates information critically and competently to present information creatively and accurately using an appropriate ethical lens.

Article Structure

(x1)

(x1)

A headline is the central idea.

A headline is present that captures the that fairly describes that describes the article is a narrative central idea.

A headline is present that captures the article's focus and is somewhat article is a narrative article article is a narrative article has an introduction, body and conclusion all generally focused around a central idea.

A headline is present that captures the article ${\bf \hat{a}} \in {\bf \hat{b}}$ s focus as well as the audience's attention. The article has a strong introduction, body and conclusion all focused around a central

Detail Accuracy presented in the (x1)

Some facts article are accurate and support the topic.

Most facts presented in the article are the topic. Details present a synopsis of the topic.

Almost all facts presented in the article accurate and support are accurate and strongly support the topic. Details are clear and present a synopsis of the topic.

All facts presented in the article are accurate and strongly support the topic. Details are clear and present an engaging synopsis of the topic.

Writing Conventions

(x1)

The final product contains many errors of spelling, grammar or syntax. The article is poorly written.

The final product contains some errors of spelling, grammar or syntax. The article is written using a singular voice.

The final product contains minimal errors of spelling, grammar or syntax. The article is written using a singular voice.

The final product contains no errors of spelling, grammar or syntax. The article is written using a singular voice.

2. Magazine Article

Your task is to write an article for a health magazine that gives information about your new ice cream. The magazine is very interested in knowing how your ice cream is made and how this affects the nutrition of the product. The focus of your article is how your new ice cream flavor is healthy because it differs from traditional ice cream. Describe the process of making ice cream and what things can be done to change nutritional considerations such as fat content, calorie count, etc. If possible discuss how different

choices during the process affect the taste and texture of the ice cream.

- How is ice cream made?
- Where in the process can you make substitutions or changes so that the fat content are reduced?
- In which steps are texture and tastes impacted?

Magazine Article - School Lunch Operations: Healthy Ice Cream

rstanding of the in solution based the target audience he factors that it the problem.	The product provides some understanding of the design solution based upon the target audience and the factors that affect the problem.	The product provides adequate understanding of the design solution based upon the target audience and the factors that affect the problem.	understanding of the design solution based upon the target audience and the factors that
			affect the problem.
	The product provides some arguments to support claims with clear reasons and evidence based upon research to help inform and persuade the reader.	The product provides satisfactory arguments to support claims with clear reasons and evidence based upon research to help inform and persuade the reader.	The product provides thorough arguments to support claims with clear reasons and evidence based upon research to help inform and persuade the reader.
ent in grammar, e, spelling and tuation. Writing style	with limited and/or inconsistent control of sentence formation. Many errors may be present in grammar,usage, spelling and	adequate control of sentence formation. Some errors may be present in grammar,usage, spelling and punctuation. Overall writing style	Variety of words used with thorough control of sentence formation. Few errors, if any, are present in grammar, usage, spelling and punctuation. Overal writing style demonstrates consistent use of language and tone.
uct demonstrates nal understanding of ive and negative pers and shows few e correct lations.	Product demonstrates limited understanding of positive and negative numbers and shows some of the correct calculations and/or a correct order of the differences in nutrients.	and shows most of the correct calculations and a correct order	correct order of the differences
nation for how ents and healthy	somewhat detailed explanation for how nutrients	The product provides a detailed explanation for how nutrients and healthy ingredients can influence human growth and health.	The product provides a very detailed explanation for how nutrients and healthy ingredients can influence human growth and health.
ire viieseeti urivoeli oli ee	word choice used ttle control of nce sentence ation. Errors are nt in grammar, syspelling and uation. Writing style eres with meaning. The demonstrates and understanding of we and negative ers and shows few expect actions. The control of now not and healthy dients can influence n growth and	word choice used ttle control of nce sentence ition. Errors are nt in grammar, expelling and uation. Writing style eres with meaning. The detail understanding of we and negative ers and shows few experiments. The correct actions. The detail of the reader. Minimal variety of words used with limited and/or inconsistent control of sentence formation. Many errors may be present in grammar, usage, spelling and punctuation. Writing style interferes with meaning. Product demonstrates limited understanding of positive and negative numbers and shows some of the correct calculations and/or a correct order of the differences in nutrients. The product provides little the product provides a somewhat detailed explanation for how nutrients and healthy ingredients can influence human growth and	word choice used the reader. Minimal variety of words used title control of with limited and/or inconsistent control of sentence inconsistent control of sentence formation. Many errors may be present in grammar, usage, spelling and uation. Writing style eres with meaning. The product demonstrates and understanding of ve and negative ers and shows few correct actions. The product provides little mation for how ents and healthy ingredients can influence in growth and inconsistent control of sentence formation. Many be present in grammar, usage, spelling and punctuation. Writing style demonstrates adequate use of language and tone. The product demonstrates adequate understanding positive and negative numbers and shows some of the correct calculations and/or a correct order of the differences in nutrients. The product provides a detailed explanation for how nutrients and healthy ingredients can influence human growth and inspelled.

Achievement Levels	1	2	3	4
CONTENT (x2)	Superficial and/or minimal content pertaining to the topic.	Limited content with inadequate explanation that does not deepen the reader's understanding of the topic.	Sufficiently developed content with adequate explanation and development of ideas. Most components of the expected response are present.	Substantial, specific, and/or illustrative content demonstrating strong development of ideas. All expected components are present.
FOCUS (×1)	Minimal evidence of the topic and what should be presented.	No apparent point but evidence of a specific topic and some information related to the topic.	Apparent point made about a single topic with sufficient awareness of topic and what is to be presented.	Sharp, distinct controlling point made about a single topic with evident awareness of the topic and what should be presented.

Achievement Levels ORGANIZATION (x1)	1	Confused or inconsistent arrangement of content with or without attempts at transition.	3 Functional arrangement of content that sustains a logical order with some evidence of transitions.	Strong and sustained arrangement of content with evident and/or subtle transitions.
STYLE (x1)	Minimal variety in word choice and minimal control of sentence structures.	Limited word choice and control of sentence structures that inhibit voice and tone.	Generic use of a variety of words and sentence structures that may or may not create writer' s voice and tone appropriate to audience.	Precise, illustrative use of a variety of words and sentence structures to create consistent writer's voice and tone appropriate to audience.

3. Web Commercial

Create a 30-60 second commercial for your product that will be accessible through the school's website. The idea behind the commercial is to make the community aware that your product will be available in schools. Make a point to highlight features that target both kids and adults. For the kids you will want to focus on taste, interesting flavor choices, and unique colors or appearance. For the adults you should focus on nutritional information such as calorie count, fat content, and vitamins and minerals found in ice cream such as calcium.

- What are the benefits of your new ice cream flavor?
- How is your ice cream flavor unique?
- What vitamins and minerals are present in your flavor and how do they benefit people who consume them?

Web Commercial - School Lunch Operations: Healthy Ice Cream

Achievement Levels	1	2	3	4
Optimizing the Design Solution (x1)	a lack of understanding of the ice cream	Product demonstrates partial understanding of the ice cream making process by incorporating certain ingredients and/or considerations necessary to optimize the nutrition of the ice cream.	Product demonstrates understanding of the ice cream making process by incorporating certain ingredients and/or considerations necessary to optimize the nutrition of the ice cream.	Product demonstrates deep understanding of the ice cream making process by incorporating certain ingredients and/or considerations necessary to optimize the nutrition of the ice cream.
Persuasive Speaking (x1)	The product provides few arguments to help inform and persuade the viewer.	The product provides arguments to support some claims with evidence to help inform and persuade the viewer.	The product provides satisfactory arguments to support claims with clear reasons and relevant evidence based upon research to help inform and persuade the viewer.	The product provides thorough arguments to support claims with clear reasons and relevant evidence based upon research to help inform and persuade the viewer.
Visuals and Graphics (x1)	Visuals and graphics selected minimally help convey intended message to audience.	Some visuals and graphics selected help convey intended message to audience.	Visuals and graphics selected help convey intended message to audience.	Original visuals and graphics created or selected to convey intended message to help persuade the audience.
Nutrients and Health (x1)	The product provides minimal explanation for how nutrients and healthy ingredients can promote human health	and healthy ingredients can	The product provides an explanation for how nutrients and healthy ingredients can promote human health.	The product provides a very detailed explanation for how nutrients and healthy ingredients can promote human health.
Technology Applications (x1)	The technology applications utilized minimally enhance the	The technology applications utilized somewhat enhance the presentation and topic.	The technology applications utilized adequately enhance the presentation and topic and	The technology applications utilized strongly enhance the presentation and topic and

Web Commercial - School Lunch Operations: Healthy Ice Cream

Achievement Levels	1	2	3	4
Content (x1)	Inaccurate information. Message unclear.	Accurate and interesting information.	Accurate and interesting information. Clearly conveys intended message.	Accurate and interesting information. Clearly conveys intended message in a creative way.
Originality (x1)	Design reflects a copy of existing advertisement. Lacking required elements.	Unoriginal design that reflects or g mimics a familiar advertisement. Elements included lack creativity.	Original design but reflects or mimics a familiar advertisement. Elements included are creative.	Original design that does not reflect or mimic a familiar advertisement. Elements included are creative and reflect original designs.
Layout (x1)	Lack of balance in color and space. Information and graphics are not organized. Information is not conveyed to audience.	Attempt at balanced use of color and space. Information and graphics are not very well organized. Information is conveyed to audience.	Balanced use of color and space. Information and graphics are organized. Information is conveyed to audience.	Balanced use of color and space. Information and graphics are very well- organized and convey intended message to audience.
Graphics (×1)	Graphics selected do not enhance product. Connections to intended purpose are not apparent.	Graphics selected attempt to enhance product, but are not clearly connected to purpose. Some elements of graphics included support intended message to audience. Graphics enhance product.	Graphics selected to convey intended message to audience. Graphics enhance product.	Original graphics created or selected to convey intended message to audience. Graphics enhance product.
Conventions (x1)	Minimal control of sentence formation. Many sentences are awkward and fragmented. Many errors may be present in grammar, usage, spelling, and punctuation, and many of those errors may interfere with meaning.	sentences may be awkward or fragmented. Many errors may be present in grammar, usage, spelling, and punctuation, and	Adequate control of sentence formation. Some errors may be present in grammar, usage, spelling and punctuation, but few, it any, of the errors that are present may interfere with meaning.	errors, if any, are present in grammar, usage, f spelling, and punctuation, but the errors that are

4. Multimedia Presentation

Your job is create a Prezi, PowerPoint, or other electronic presentation that shows the steps of the ice-cream making process. Be sure to include information about how different choices during the process could change the taste and/or texture of the ice cream. Also describe how different choices can change the nutritional content of the ice cream.

- How is ice cream made?
- How can different choices in that process impact the taste, texture and nutritional content of the ice cream?
- What vitamins and minerals are present in your flavor and how do they benefit people who consume them?

Multimedia Presentation - School Lunch Operations: Healthy Ice Cream

Achievement Levels 2 3 4

A<u>chie</u>ve ment _(x1) Levels	The layout is inappropriate with awkward transitions. Font formats do not	The layout is appropriate and aesthetically pleasing with awkward transitions. Font	pleasing with transitions moving the audience from slide to slide. Font formats	aesthetically pleasing with transitions that are smooth and strategic. Font formats have
	promote readability.	formats do not promote readability.	allow the reader to adequately read the presentation.	
Wants and Needs of the Audience (x1)	The product minimally meets the goals of the task by attempting to design a new flavor of ice cream.	The product somewhat meets the goals of the task by designing a new flavor of ice cream.	The product meets the goals of the task by designing a new flavor of ice cream that will satisfy most of the needs of the audience.	The product expertly meets the goals of the task by designing a new flavor of ice cream that satisfies all the needs of the audience.
Technology Applications (x1)	The technology applications utilized do not connect the presentation and topic. The graphics are unattractive and do not connect with the topic of the presentation.	The technology applications utilized connect the presentation and topic. Some graphics are attractive and connect with the topic of the presentation.	The technology applications utilized enhance the presentation and topic. Most graphics are attractive and support the topic of the presentation.	The technology applications utilized strongly enhance the presentation and topic. All graphics are attractive and support the topic of the presentation.
Optimizing the Design Solution (imes 1)	Product demonstrates a lack of understanding of the ice cream making process and/or the ingredients necessary to optimize the nutrition.	Product demonstrates partial understanding of the ice cream making process by incorporating certain ingredients and/or considerations necessary to optimize the nutrition of the ice cream	cream making process by incorporating certain ingredients and/or considerations necessary to	Product demonstrates deep understanding of the ice cream making process by incorporating certain ingredients and/or considerations necessary to optimize the nutrition of the ice cream.
Nutrients and Health (x1)	The product provides minimal explanation for how nutrients and healthy ingredients can promote human health.	The product provides some explanation for how nutrients and healthy ingredients can promote human health.	The product provides an explanation for how nutrients and healthy ingredients can promote human health.	The product provides a very detailed explanation for how nutrients and healthy ingredients can promote human health.
Informational Presentation (x1)	The presentation minimally uses relevant evidence and is not presented in a coherent manner.	The presentation uses some relevant evidence and is presented in a somewhat coherent manner.	The presentation uses relevant evidence and is presented in a coherent manner focusing on important points.	The presentation expertly uses relevant evidence and is presented in a coherent manner emphasizing important points.
Research (x1)	Product demonstrates a lack of research conducted around the topic.	Product demonstrates that some research was conducted around the topic.	Product demonstrates that research was conducted around the topic using few credible or appropriate sources.	Product demonstrates that thorough research was conducted around the topic, using several sources that are credible and appropriate.
Multimedia	a Presentation	- School Lunch O _l	perations: Healthy	y Ice Cream
Achievement Levels	1	2	3	4
A esthetics	The layout is inappropriate with awkward transitions. Font formats do not promo readability.	The layout is appropriate and aesthetically pleasing with awkward transitions. Font formats do not promote readability.	The layout is appropriate and pleasing with transitions moving the audience from slide to slide. Font formats allow the reader to adequately read the	The layout is appropriate and aesthetically pleasing with transitions that are smooth and strategic. Font formats have been carefully planned

Language

(x1)

Language does not help the audience and text contains numerous spelling, grammar and syntax errors.

Language somewhat helps the audience and provides some information provides some valuable information. The text contains spelling,

Language used helps to get the audience involved and provides some valuable information. The text has minimal spelling, grammar and syntax errors.

Language used engages the audience while providing critical information. The text is free of spelling, grammar and syntax errors.

grammar and syntax errors.

(x1) Levels	while providing a story with a little content and depth.	provides a minimal background on the topic for the audience.	sufficient content and depth while providing a background on the topic for the audience.	
Technology (x1)	The technology applications utilized do not connect the presentation and topic. The graphics are unattractive and do not connect with the topic of the presentation.	The technology applications utilized connect the presentation and topic. Some graphics are attractive and connect with the topic of the presentation.	The technology applications utilized enhance the presentation and topic. Most graphics are attractive and support the topic of the presentation.	The technology applications utilized strongly enhance the presentation and topic. All graphics are attractive and support the topic of the presentation.

providing a story with

content and of sufficient

5. Poster

Design a poster that encourages students to buy and eat your new ice cream flavor. Your poster should contain facts about the nutritional benefits of your ice cream. It should also showcase delicious looking pictures with informational captions that will capture the attention of the students.

- What are the benefits of your new ice cream flavor?
- How is your ice cream flavor unique?

Gantanto month Minimally accurate in detail content and depth that

• What vitamins and minerals are present in your flavor and how do they benefit people who consume them?

Poster - School Lunch Operations: Healthy Ice Cream

Achievement Levels	1	2	3	4
Required Elements and Design and Accuracy (x1)	Poster lacking required elements, a title, information appropriate for purpose and audience.	Poster contains some required elements, a title, inclusion of little information, appropriate for purpose and audience.	Poster contains most required elements, a title, inclusion of relevant information, appropriate for purpose and audience.	Poster contains all required elements, a clear title, relevant and accurate information, appropriate for purpose and audience.
Aesthetics (x1)		There is a little cohesive organization to the poster with few attempts at balance between the design elements. The poster reflects somewhat effective use of space, color, texture, and shape.	There is a somewhat cohesive organization to the poster with attempts at balance between the design elements. The poster reflects effective use of space, color, texture, and shape.	There is a cohesive organization to the poster with balance between the design elements. The poster reflects very effective use of space, color, texture, and shape.
Nutrients and Human Growth (x1)	The product provides little understanding of how nutrients and healthy ingredients can influence human growth and health.	The product provides some understanding of how nutrients and healthy ingredients can influence human growth and health.	The product provides adequate understanding of how nutrients and healthy ingredients can influence human growth and health.	The product provides thorough understanding of how nutrients and healthy ingredients can influence human growth and health.
Design Choices (x1)	The product provides minimal understanding of the design solution based upon the target audience and the factors that affect the problem.	The product provides some understanding of the design solution based upon the target audience and the factors that affect the problem.	The product provides adequate understanding of the design solution based upon the target audience and the factors that affect the problem.	The product provides strong understanding of the design solution based upon the target audience and the factors that affect the problem.

Poster - School Lunch Operations: Healthy Ice Cream

Achievement Levels	1	2	3	4

Acwiese ment Elements and Design and Accuracy (x1)	required el ements,	Poster contains some required elements, a title, Aclusion of little information, appropriate for purpose and audience.	Poster contains most required elements, a title, inclusion of relevant information, appropriate for purpose and audience.	Poster contains all required elements, a clear title, relevant and accurate information, appropriate for purpose and audience.
Grammar and Mechanics (x1)	Grammar and sentence mechanics are not effective and do not reflect appropriate use of language.	Grammar and sentence mechanics are rarely effective and at times reflect appropriate use of language. Language does not fully engage the viewer and somewhat advances the purpose of the poster.		mechanics are effective and reflect appropriate use of language. Language used
A esthetics (x1)	There is a no cohesive organization to the poster with no attempts at balance between the design elements.	There is a little cohesive organization to the poster with few attempts at balance between the design elements. The poster reflects somewhat effective use of space, color, texture, and shape.	There is a somewhat cohesive organization to the poster with attempts at balance between the design elements. The poster reflects effective use of space, color, texture, and shape.	There is a cohesive organization to the poster with balance between the design elements. The poster reflects very effective use of space, color, texture, and shape.

6. Nutritional Chart Comparison

As part of your marketing strategy, you want schools to be aware of the nutritional benefits of a healthy ice cream and how it is better than other products they can buy. To do this, you decided to create an easy-to-read Nutritional Chart that compares the nutrition facts of a healthy ice cream compared to a typical version of the same flavor. You will first need to compute the Percent Daily Value (PDV) of the fat, cholesterol, sodium, potassium, carbohydrates, and proteins in the two Salted Caramel ice creams shown below. This website may help you determine the PDVs:

https://www.netrition.com/rdi_page.html

The focus of your chart should be the differences between these 2 types of ice cream. Once you have calculated the PDVs, use positive and negative numbers for the differences in the healthy ice cream percentages from a typical one. Arrange the chart in descending order so that the categories in which the healthy ice cream shows the biggest benefits are on top and the category with the least benefit is at the bottom.

- Click <u>HERE</u> for Nutrition Labels
- What nutrients in ice cream make it healthier?
- What does Percent Daily Value mean on a label and how can it be calculated?
- How can integers (positive and negative numbers) help you show the nutritional advantages?